

IN THE CLAIMS

Please amend the claims as follows:

Claim 1. (Currently Amended) A steering control device including a steering wheel steering mechanism having a steering actuator that imparts a steering reaction force to a steering wheel, and a vehicle wheel steering mechanism having a vehicle wheel steering actuator that drives a vehicle wheel steering shaft, comprising:

a steering angle sensor that detects a steering angle θ of the steering wheel; and

a steering change amount sensor that detects a steering change amount X_a in the vehicle wheel steering mechanism; ~~wherein~~

~~the steering wheel steering mechanism includes~~ an end-of-movement reaction force generation unit that respectively generates, in a vicinity of an upper limit point θ_E of the steering angle θ and a vicinity of a lower limit point $-\theta_E$ of the steering angle θ , a virtual contact resistance force that inhibits the steering angle θ from exceeding threshold values of a predetermined permissible range ($-\theta_E \leq \theta \leq \theta_E$) of the steering angle θ , based on the steering angle θ , the steering change amount X_a or a command value X_n for the steering change amount X_a ; and

a steering angle threshold value variation unit that dynamically changes the upper limit point θ_E and the lower limit point $-\theta_E$ of the permissible range ($-\theta_E \leq \theta \leq \theta_E$), based on a vehicle speed v .

Claim 2. (Currently Amended) The steering control device according to claim 1, ~~wherein the steering control device is configured such that the steering wheel steering mechanism and the vehicle wheel steering mechanism are mechanically separate, and are operationally connected by an electronic mechanism rather than by a mechanical connection.~~

Claims 3-10 (Cancelled).

Claim 11. (New) A steering control device including a steering wheel steering mechanism having a steering actuator that imparts a steering reaction force to a steering wheel, and a vehicle wheel steering mechanism having a vehicle wheel steering actuator that drives a vehicle wheel steering shaft, comprising:

a steering angle sensor that detects a steering angle θ of the steering wheel; and

a steering change amount sensor that detects a steering change amount X_a in the vehicle wheel steering mechanism;

position control means for generating a command value I_n for the vehicle wheel steering actuator based on the detected steering change amount X_a and the detected steering angle θ of the steering wheel;

reaction force control means for generating a reaction force signal i_n to the steering actuator based on the command value I_n ; and

an end-of-movement reaction force generation means for generating, in a vicinity of an upper limit point θ_E of the steering angle θ and a vicinity of a lower limit point $-\theta_E$ of the steering angle θ , a virtual contact resistance force signal,

wherein the steering actuator imparts a steering reaction force to the steering wheel based on the sum of the reaction force signal and the virtual contact resistance force signal.

Claim 12. (New) The steering control device according to claim 11, wherein the virtual contact resistance force signal is based on the detected steering angle θ .

Claim 13. (New) The steering control device according to claim 11, wherein the virtual contact resistance force signal is based on the detected steering change amount X_a .

Claim 14. (New) The steering control device according to claim 11, wherein the steering wheel steering mechanism and the vehicle wheel steering mechanism are mechanically separate.